



# PROCEEDINGS

of the  
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of  
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2 PARTS

PART 2

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No 1

## Seeing the Wheels Go Round

JOHN DOE is a member of the Local Section in his home town. He knows from experience that a meeting does not "just grow", like Topsy. Last year he made it his business to come to New York a bit early for the Annual Meeting. And he came with his eyes open, determined—like the boy prying into his first watch—to "see the wheels go round."

On Tuesday he made himself known in the Society Reading Room, leaving a memorandum of the hotel at which he was staying. He saw the florists arranging the decorations of palms and flowers. The Board Room was not open for his inspection, and he learned that this was because the Board of Direction was then holding its closing session—it had been in session on the morning, afternoon and evening of Monday. That afternoon there were to be held meetings of some of the important administrative committees and in the evening was to be a dinner for the Past and Active Officers, including all who had served at any time.

On Wednesday morning Mr. Doe came to the building early, "all set" for the Annual Meeting. In the lobby on the ground floor, desks and counters had been arranged overnight, and the Headquarters staff were all assigned to their stations. The Information Desk held various pamphlets, preprints of papers to be read at the meeting, and a few general books of reference. Here also were two telephones to facilitate all sorts of inquiries.

On one side of the lobby was a counter where at one station members were registering and, at another, purchasing tickets for the social

functions. As he had sent his check ahead of time, however, he found his tickets and a large badge bearing his name neatly printed, waiting for him at another table. These "dinner-plate" badges, so he learned, are kept from year to year, and a draftsman is on duty to make up such new ones as may be necessary.

He was anxious to see if certain other members were at the meeting. The attendance record, alphabetically arranged, showed that one whom he wished to see had already registered, giving the name of his hotel; and that another was expected, but had not yet appeared to claim his tickets and badge.

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## Appreciation

THE Society has honored itself as well as taken delight in bestowing Honorary Membership on distinguished engineers. It is appropriate to share with the membership the glow of pleasure engendered by the receipt of the following letter addressed to the Secretary from the President of the World Engineering Congress, recently closed at Tokyo:

"With solemn ceremony, I was bestowed with the diploma and the badge of the Honorary Member of the American Society of Civil Engineers on a good day of November 1st.

"I am highly honored to be thus privileged to be among the members of the foremost engineering organization of America, and wish to express my most sincere appreciation through you to the President and the Council of the Society, of the courtesy thus extended to me.

"Accept, Sir, the assurances of my high respects to the officers and members of the American Society of Civil Engineers.—Very sincerely yours, BARON KOI FURUICHI."

## The Power of Speech

IT was only a few centuries ago that perplexing problems were assigned to "trial by combat", wherein the opposite sides of a question were entrusted to rival champions, with the infallible result that the truth sustained the sword arm of the victor.

In the same manner, though perhaps on a mass-production basis, to use the modern term, the Roman populace exercised competent judgment when it turned thumbs up on highly specialized gladiators, even though the victory might have been gained through accident or even subterfuge. Even to-day we see more than a few cases in politics where the appeal to the constituency makes or breaks an able statesman, irrespective of his real capabilities.

Now comes the trial by battle to solve an engineering quandary. A verbal combat between competing engineering firms was recently promoted by the Chamber of Commerce of a certain town in the United States, during which it was hoped that rival spellbinders, haranguing the citizenry, would extol their engineers' competency and advocate their firms' plans for some proposed public work, and that, by acclamation of the public, the question of which firm should get the job would be solved.

Every one will grant cordial approval of the Chamber's expressed desire to be absolutely fair and ethical and to attempt to secure the very best organization possible to do the work. It was made perfectly clear, however, that determination of the engineer would be granted only on the basis of how well the listening public became convinced of the qualifications of the firms through the oratorical efforts and personality of rival speakers. Parenthetically, it

should be added that the invitations to the competition were on the basis of neither expense nor obligation to the town. This may or may not have been designed to give amateur standing to the contestants.

Here was a perfectly definite proposal that a town choose its engineers by a public speaking competition. Although the Chamber of Commerce indicated that it was the civic body which was to discuss the matter with the various firms, these technical and professional matters were also to be judged by the inhabitants of the community after listening to rival sales talks. The kindest view of the plan is that it represents ignorance of the professional methods of the engineer.

One of the invited contestants declined the opportunity in a courteous letter which pointed out the breach of ethics involved. At the same time, the firm distinguished clearly between its willingness at all times to address civic organizations for educational purposes, and its flat refusal to talk before the same bodies for the purposes indicated in the invitation.

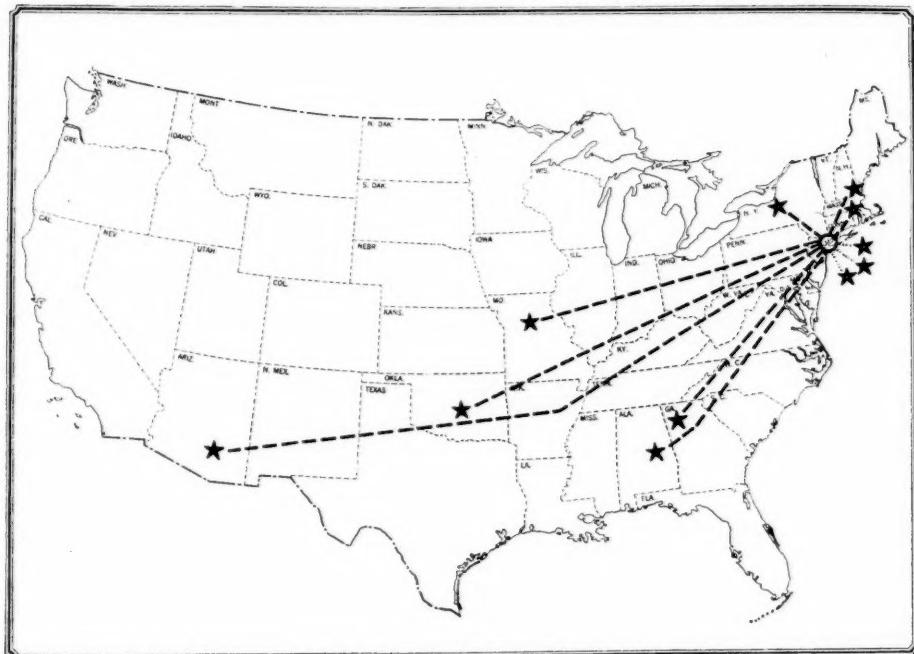
The issue seems perfectly clear, yet latest newspaper dispatches state that two speakers are already scheduled for definite dates, and four others are expected shortly. Why not complete the picture by requiring each orator to begin his talk with the gladiators' invocation to their judges, the citizens of Rome:

"We who are about to die salute you!"

## January Proceedings

THE results from two extensive researches comprise the papers in the first issue of Proceedings for the year 1930. In his paper, "Rainfall Characteristics and Their Relations to Soils and Run-Off", C. S. Jarvis, Member, starts on the assumption that projects of flood control or the development of water resources need very complete records of primary rainfall. His answer to this need has been limited only by the available sources of information.

For example, one of Mr. Jarvis' tables alone includes the summarized history of rainfall at more than 800 stations throughout the whole world. This and other extensive information is made available for many engineering applications in this broad field, to



*Distribution of the lantern-lectures on December 6*

the great advantage of every student of hydrology and run-off.

It is well known, according to Lorenz G. Straub, Junior member, in his paper "Plastic Flow in Concrete Arches", that concrete structures, undisturbed, yield gradually in the course of time. Because this action, or "hysteresis", has not been given sufficient study, he has examined results from extensive tests, and therefrom has evolved what he terms "a theory of plasticity".

Among other things, he has been able to show that even precise measurements of deformation may not yield correct conclusions regarding the stressed conditions of an arch. He further shows that the plastic flow does not permit a structure which is over-stressed locally to relieve itself, as has often been assumed.

Even the fact that these two papers occupy considerably more than 100 pages partly indicates their true extent. Each is greatly condensed from a much more extensive original study. The concentrated form, however, expresses the meat of the matter in each instance without impairing its digestibility.

Discussions on open papers fill the next 70 pages. Breadth rather than concentration of interest is apparent from the distribution of the 24 discussions among 16 topics. Finally, the memoirs of 5 deceased members conclude the January issue.

## In Transit

THE Committee on Student Chapters inaugurated a new lantern-lecture service this fall, announcing it to the Student Chapters by letter in November, and repeating the notice in December Proceedings, Part 2. The lectures are made up from pictures and information furnished by prominent engineers who were closely identified with each job.

As a result, reservations have been coming in on the average of one a day, many being advance bookings throughout the year. It will be of interest to see a graphic presentation of these lectures "in transit" on one day early in December. There were only 8 lectures complete at that time, but duplicate sets had been made so that 11 of the 16 copies were in use—on the way, being shown, or returning to Headquarters.

The map shows where they went: three in the resident district—College of the City of New York, Manhattan College, and Rutgers University; then in order—as shown by the radiating lines—Worcester Civil Engineering Society, Worcester, Mass.; University of New Hampshire; Syracuse University; University of Missouri; University of Oklahoma; University of Arizona; Georgia School of Technology; Alabama Polytechnic Institute.

## Highway Division

*By H. K. Bishop  
Chairman, Executive Committee*

THE Chairman desires at this time to report to the members of the Highway Division relative to the work that has been accomplished during the present calendar year and the plans that the Executive Committee has formulated for the Annual Meeting in New York in January.

The Executive Committee has met several times during the year and has given considerable attention to the programs for the Quarterly Meetings, with the intention of bringing up for discussion subjects of vital interest in highway work.

Sessions have been held at the Quarterly Meetings in Dallas, Tex.; Milwaukee, Wis.; and Boston, Mass. At each of these sessions very interesting papers were presented and considerable discussion was indulged in by members of the Highway Division and others present. The Executive Committee decided that it was vitally important to restrict the number of papers presented at the various meetings in order that there might be opportunity and time for a full discussion of all the subjects appearing on the program. It was decided, therefore, to restrict the number of papers to two.

The Committee has followed a policy of allowing the Local Section to select and recommend speakers for one subject which might be of particular interest to the locality in which the meeting was to be held. It was further decided that the subject of the Equitable Distribution for Highway Purposes of Motor Vehicle License Fees and Gasoline Taxes should be presented and fully discussed at each of the Quarterly Meetings, with the idea of obtaining a cross-section of the opinion of the leading engineers throughout the country and securing as wide a discussion as possible as to the proper distribution of these taxes.

The subject was presented at the Dallas, Milwaukee, and Boston meetings and very fully discussed. It developed that there was a growing sentiment in favor of cities and local communities obtaining a greater proportion of the motor vehicle license fees and gasoline taxes. It was also developed that there was an equally strong sentiment in favor of placing

the proceeds from these taxes to the credit of the State Highway funds, at least until the major part of the State Highway Systems are completed. Considerable information has been obtained by continuing this subject through the Quarterly Meetings and it is proposed to have this information summarized and to present it for the benefit of the membership at the Annual Meeting in January.

Considerable interest has been shown by the membership of the Highway Division in all its meetings, as evidenced by the fact that there have been numerous requests for the Division to hold sessions at each one of the Quarterly Meetings. It is hoped that this interest will be sustained. Every effort will be made by the Executive Committee to make these meetings interesting and profitable.

I would like to appeal to all the membership of the Division to take an active interest in these meetings and contribute to the discussions. The Highway Division has a large membership and I believe the attendance at the sessions compares favorably with other Divisions of the Society. However, the membership is urged to take a greater interest in the work of the Division and increase

the attendance at the sessions held.

I desire at this time to express the appreciation of the Executive Committee and the Chairman to all who have contributed to the success of the work of the Division.

## Construction Division

*By W. J. Barney  
Chairman, Executive Committee*

In order to further general interest and co-operation from our widely scattered members, a brief summary is presented of the Construction Division's work and plans. The Division's activities center largely around the various Committees, especially those studying construction, and plant methods. Several of these have already made reports which are as complete as the Committees are able to make them.

These reports have been published in the March and October, 1929, Proceedings. It is hoped that other members will read them critically and comment to the Division Chairman. As they stand, they represent only the Committees' collective opinion, but unless constructive criticisms and suggestions are received, they will go out in manual form as reports.

*Meetings*  
At a meeting during the Summer

## Miscellany

President Marston, addressing the Georgia Section during his October tour, was quoted by "The Constitution", Atlanta, as follows:

"Young men study engineering to satisfy a craving for romance. Every new development with a romantic turn brings new students into the engineering schools. For example, in my own college, the aeronautical school has increased its enrollment by one-third since the nation has realized the progress in aviation."

The following official signature is reported as having been affixed to a document in a land transfer:

"....., Chief Grand Mentor of the Grand Lodge of the Grand Temple and Tabernacle in the State of Texas of the Knights and Daughters of Tabor of the International Order of Twelve."

This brings to mind:

"Grand United Order of the Sons and Daughters of the Fishermen of Galilee of the Eastern and Western Hemispheres."

The mailing list of Proceedings contains a section which reads like the roll-call of the League of Nations. While engineering is undoubtedly a common denominator of international contacts, it may not have oc-

curred to the American recipient of the blue-gray pamphlets that identical copies go out also to the Argentine Republic, Austria, Belgium, Brazil, Canada, the Canal Zone, Chile, China, Czechoslovakia, Egypt, England, France, Germany, Holland, India, Italy, Japan, Java, Mexico, New Zealand, Norway, Peru, Poland, Scotland, South Africa, South Australia, Spain, Sweden, Switzerland, and the Union of the Socialist Soviet Republics.

A consulting engineer has been defined as "an engineer who knows rather than one who does." An employer who did not sense that distinction had protested a consultant's fee, but was persuaded to remit by the following story:

"A recent breakdown of an industrial plant was entailing great confusion and large losses. The plant operators were unsuccessful in their efforts to locate the trouble and a consultant was called in. He had the plant in operation in less than one hour, having tapped a delicate portion of the machinery but twice with a hammer. This consultant sent in his bill for \$5,000, which was protested, and he was asked to detail his charges. His reply was: 'For two taps with a hammer at \$1 per tap, \$2. For knowing where to tap, \$4,998.'"

Convention at Milwaukee in July last, the Division held a joint meeting with the Waterways Division, presided over by Vice-Chairman J. P. H. Perry. The following four papers on construction methods and plant were presented:

1. "Some Construction Methods Employed on the Welland Ship Canal", by E. G. Cameron, Esq., Principal Assistant Engineer of the Canadian Department of Railways and Canals, St. Catharines, Ont., Canada.

2. "Construction Methods Employed on the Ohio, Mississippi, and Missouri Rivers", by F. E. Lamphere, M. Am. Soc. C. E., Supervising Engineer, U. G. I. Contracting Company, Philadelphia, Pa.

3. "Shovel, Dragline, and Bucket Crane Output Factors, with Suggested Multipliers for Estimating Output Under Difficult Conditions", by A. E. Holcomb, M. Am. Soc. C. E., Engineer, Koehring Machine Company, Milwaukee, Wis.

4. "Construction Plant and Methods on Lake Front Improvements of Chicago", by James E. Cahill, M. Am. Soc. C. E., Assistant Division Manager, Great Lakes Dredge and Dock Company, Chicago, Ill.

At a separate morning session progress reports from five of the Committees on Construction Plant and Methods were presented. The four papers and the five reports, with discussions, were abstracted and printed in the October Proceedings, Part I.

The Executive Committee announced the formation of a new Committee on Construction Plant and Methods for Steel Bridges, Albert F. Reichmann, Division Engineer, American Bridge Company, Chicago, Ill., Chairman. It was also announced that a new Committee on Construction Plant and Methods for Flood Control Operation, under the Chairmanship of F. V. Ragsdale, of Memphis, Tenn., will be assembled.

#### Bibliography

During the past year, a very thorough survey has been made of practically all the prominent technical magazines, books, and various Society publications covering the past ten years. This has resulted in a bibliography listing about 2,000 articles pertaining to construction methods and plant. Each reference gives a brief but complete summary of the article, which is further cross-referenced as to the various types of plant described or mentioned. Such information is not available elsewhere. It is hoped, therefore, that the bibliography will be of practical value to engineers and contractors

seeking information in respect to construction plant and construction methods. In its completed form it will comprise a manual, or book, of 60 or more pages. It is now in the hands of the Secretary of the Society ready for publication.

#### *Plans for 1930 Annual Meeting*

It is planned to center the Annual Meeting in New York on the subject of Plant and Methods Used in Subway Construction.

(To be concluded)

### Seeing the Wheels Go Round

(Continued from page 1)

By this time the first session of the Annual Meeting was about to begin, in the Auditorium, and the elevators and stairways were crowded with members of all ages.

The early business of the meeting was quickly disposed of—reports of the Board of Direction, of the Secretary, and of the Treasurer. Then came the presentation of Medals and Prizes, as well as the conferring of Honorary Memberships upon outstanding members of the profession.

That year there seemed to be only perfunctory business on the minds of the members, there being no amendments or other Society policies discussed from the floor. The morning session closed with a ceremony touched with an atmosphere of sentiment. The incoming President was conducted to the platform by two of the Past-Presidents, and inducted into office. The first act of the new presiding officer was to turn and present to his predecessor the gavel, suitably inscribed, which he had used during the year of his presidency.

All this time, in anticipation of the midday adjournment, there had been a great bustle up on the fifth floor. The caterer was at work, preparing for the luncheon to be served at noon to five hundred people. At the same time the Society staff of forty-four snatched a few minutes, in relays, and enjoyed a similar lunch in the office.

In the afternoon all those who were in attendance were again gathered in one joint session in the Auditorium to hear and discuss the reports of the several committees which during the year had been carrying on research work or were making concise résumé of the progress and the

status of several of the major phases of civil engineering.

The evening, by contrast, was given over by Mr. Doe and his wife to the President's and Honorary Members' Reception, the banquet, and—last, but not least—the dance which continued as long as they wished to stay.

Thursday the meeting was no longer called together in one group in the Auditorium. The Technical Divisions had their day, and were found scattered throughout the building in different meeting rooms. As Mr. Doe belonged to three Divisions, he found he had the opportunity to devote his entire time to matters particularly of interest to him.

Meanwhile, Mrs. Doe, having slept a little late after the dance, and having done a bit of shopping, joined the other ladies at a "Tea". She was particularly glad of this opportunity to extend her acquaintance among the other ladies who share with her the pride, loyalty, and problems involved in being an engineer's wife.

The largest attendance at any gathering during the week was at the Smoker on Thursday evening. Here an entertaining program was arranged, and the evening was finished in an atmosphere of good cigars, and with refreshments.

As it was not necessary to return home immediately, this member, his wife, and some city friends, not members of the Society, were very glad to take in the Excursion which had been planned for all day Friday.

The trip proved to be both instructive and entertaining and the Does made several new friends through the camaraderie of this informal tour.

That night Mr. Doe joined a group of his college mates in a reunion dinner, and the next day went on another short trip to a near-by project. In both these inspections he was much impressed with the way in which free and open access was given to all features of the work. The blue badge was proving to be, as usual, an open sesame to otherwise inaccessible places.

By the end of the week he felt that he had seen and heard enough to last him for some time. He was pleased that prior arrangements had made practicable his journey and that of Mrs. Doe with reduced railroad fares. As he started homeward, he was happily tired but full of new enthusiasm for the Society, its work, and its membership.